

Borehole

50-07-08Log Event **A****Borehole Information**

Farm : <u>T</u>	Tank : <u>T-107</u>	Site Number : <u>299-W10-150</u>
N-Coord : <u>43,427</u>	W-Coord : <u>75,685</u>	TOC Elevation : <u>673.00</u>
Water Level, ft : <u>71.40</u>	Date Drilled : <u>2/28/1975</u>	

Casing Record

Type : <u>Steel-welded</u>	Thickness : <u>0.250</u>	ID, in. : <u>4</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>91</u>	
Type : <u>Steel-welded</u>	Thickness : <u>0.280</u>	ID, in. : <u>6</u>
Top Depth, ft. : <u>0</u>	Bottom Depth, ft. : <u>91</u>	

Equipment Information

Logging System : <u>1</u>	Detector Type : <u>HPGe</u>	Detector Efficiency: <u>35.0 %</u>
Calibration Date : <u>03/1995</u>	Calibration Reference : <u>GJPO-HAN-1</u>	

Logging Information

Log Run Number : <u>1</u>	Log Run Date : <u>4/10/1995</u>	Logging Engineer: <u>Dave Traub</u>
Start Depth, ft.: <u>88.0</u>	Counting Time, sec.: <u>197</u>	L/R : <u>L</u> Shield : <u>N</u>
Finish Depth, ft. : <u>76.0</u>	MSA Interval, ft. : <u>n/a</u>	Log Speed, ft/min.: <u>0.3</u>

Log Run Number : <u>2</u>	Log Run Date : <u>4/11/1995</u>	Logging Engineer: <u>Dave Traub</u>
Start Depth, ft.: <u>76.0</u>	Counting Time, sec.: <u>200</u>	L/R : <u>R</u> Shield : <u>N</u>
Finish Depth, ft. : <u>0.0</u>	MSA Interval, ft. : <u>n/a</u>	Log Speed, ft/min.: <u>0.3</u>

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Log Event A

Analysis Information

Analyst : D.C. StromswoldData Processing Reference : Data Analysis Manual Ver. 1Analysis Date : 7/7/1995**Analysis Notes :**

This borehole was double cased in the early 1980s. The outer casing was perforated from 0 to 20 ft and about 89 to 91 ft. Grout was pumped into the annulus between the casings, and an unknown amount of the grout flowed into the formation through the perforations. This borehole configuration makes it impossible to determine accurate radionuclide concentrations because the system calibrations do not have a grout correction. In addition, there is an unknown grout thickness from 0 to 20 ft and from 89 to 91 ft. As a result, the reported concentrations can only be considered relative to other concentrations in the borehole.

This borehole was logged in two dynamic (0.3 ft/min) log runs. The pre- and post-survey field verification spectra showed consistent peak activities for both runs, but energy calibrations differed because of gain drift in the instrumentation. Spectra in the middle of both log runs were recalibrated for energy versus channel.

A 0.650-in. casing correction factor was used during the analysis. A water level correction was applied for the data collected below 71.4 ft.

Log Plot Notes:

Separate plots show the man-made and naturally occurring radionuclides. Concentrations are shown as apparent concentrations to reflect the uncertainty associated with the dual casing and annular grout. The headings of the plots identify the specific gamma lines used to calculate concentrations. Uncertainty bars in the plots show statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plot indicate the MDL, which represents the lowest concentration at which positive identification of a gamma ray peak is statistically defensible.

A combination plot includes man-made and natural radionuclides, the total gamma count rate derived from the spectral data, and the Tank Farms gross gamma log. The gross gamma log plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs to coincide with the SGLS data. The SGLS total gamma ray plot reflects changes in KUT concentrations detected throughout the logged interval.

A time-sequence plot of selected historical gross gamma log data from 1975 to 1993 is also presented with the SGLS log plots.